

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- 1 (currently amended). A method for detecting fiducial marking [on] in a tufted carpet material, comprising the steps of
 - a. providing tufted carpet material with at least one fiducial marking, the fiducial marking being in a configuration designed to be related to the pattern of the tufted carpet and characterized by the ability to absorb light in a first wavelength range and to fluoresce in a second wavelength range that is at least partially outside the first wavelength range,
 - b. directing light at the tufted carpet material in the first wavelength range, to cause the fiducial marking material to absorb the light in the first wavelength range and to fluoresce in the second wavelength range, and
 - c. optically examining the tufted carpet material at a predetermined detection site relative to the tufted carpet material, to determine whether fluorescence from the fiducial marking which is in the second wavelength range is detected at the predetermined detection site and to provide output related to the configuration of the fiducial marking.
2. (currently amended) A method as set forth in Claim 1, wherein the fiducial marking is provided as an intrinsic component of the tufted carpet material.
3. (currently amended) A method as set forth in Claim 1, wherein the fiducial marking is provided as an extrinsic component of the tufted carpet material.
4. (currently amended) A method as set forth in claim 3, wherein the extrinsic fiducial marking and the excitation source are characterized such that

fluorescence is excited in the extrinsic fiducial marking but not in the intrinsic components of the tufted carpet material.

5. (canceled) A method as set forth in Claim 4, wherein the material comprises carpet material, and the fiducial marking is provided in the carpet material.

6. (currently amended) A method as set forth in any of claims 1-4, wherein the tufted carpet material includes a primary backing, and the fiducial marking is provided in the primary backing.

7. (currently amended) A method as set forth in claim 6, wherein the fiducial marking is [applied to] provided on the surface of the primary backing.

8. (original) A method as set forth in claim 6, wherein the primary backing is at least partially woven from an extruded polymeric material, and the fiducial marking is introduced into the polymeric material.

9. (currently amended) A method as set forth in claim [5] 1, wherein the tufted carpet material includes face fiber that provides part of the pattern of the tufted carpet, and the fiducial marking is provided in the face fiber.

10. (currently amended) A method as set forth in claim 9, wherein the fiducial marking is [applied to] provided on the surface of the face fiber.

11 (original). A method as set forth in claim 9, wherein the face fiber is at least partially formed from an extruded polymeric fiber, and the fiducial marking is introduced into the polymeric material forming the polymeric fiber.

12 (currently amended). A method as set forth in claim 6, wherein the tufted carpet material comprises tufted carpet material having face fiber that provides the pattern of the tufted carpet, and wherein the fiducial marking is provided in the face fiber.

13. (currently amended) A method of detecting fiducial markings provided in a moving carpet material, the fiducial markings in a configuration designed to be related to

the pattern of the carpet and characterized by the ability to absorb light in a first wavelength range and to fluoresce in a second wavelength range that is at least partially outside the first wavelength range, comprising the steps of directing light in the first wavelength range at the carpet material, and optically examining the moving carpet material at a plurality of predetermined locations relative to its path of movement to detect the presence or absence of the fiducial markings at the predetermined locations, and providing output based on the presence or absence of the fiducial markings at the predetermined locations for use in determining the relative position of the pattern of the carpet based on the configuration of the fiducial marking.

14. (currently amended) A method as set forth in claim 13, wherein the carpet material comprises face fiber combined into a primary backing and a secondary backing which is aligned with and then bonded to the primary backing, the face fiber providing the pattern of the carpet and the fiducial markings being provided in the face fiber, and wherein said step of optically examining the moving carpet material is provided before the secondary material is bonded to the primary backing.

15. (currently amended) A method as set forth in claim 13, wherein the carpet material comprises face fiber combined into a primary backing and a secondary backing which is aligned with and then bonded to the primary backing, the face fiber providing the pattern of the carpet and the fiducial markings being provided in the primary backing, and wherein said step of optically examining the moving carpet material is provided after the secondary material is bonded to the primary backing.

16. (original) A method as set forth in claim 13, wherein the fiducial markings extend transverse to the direction of movement of the carpet material.

17. (original) A method as set forth in claim 16, wherein said step of optically examining the moving carpet material comprises optically examining the moving carpet material at an array of locations extending transverse to the direction of movement of the carpet material.

18. (currently amended) A method as set forth in claim 13, wherein the carpet material comprises face fiber combined into a primary backing and a secondary backing which is aligned with and then bonded to the primary backing, the face fiber providing the pattern of the carpet and the fiducial markings being provided in the primary backing, wherein the primary backing has a front side and a back side, and wherein said step of optically examining the carpet material comprises optically examining the carpet material by an excitation beam directed at the back side of the primary backing.

19. (original) A method as set forth in claim 14, wherein the primary backing has a front side and a back side, and wherein said step of optically examining the carpet comprises optically examining the carpet material by an excitation beam directed at the front side of the primary backing.

20. (original) A method as set forth in claim 14, wherein the fiducial markings are provided in the primary backing, the carpet material is moved over a roller, and said step of optically examining the moving carpet material is performed at predetermined locations relative to the roller as the carpet material is moving over the roller.

21. (original) A method as set forth in claim 20, wherein the primary backing has a front side and a back side, the carpet material moves over the roller with the back side in proximity to the roller, and said step of optically examining the carpet material comprises optically examining the carpet material by an excitation beam directed at the front side of the primary backing.

22. (canceled) Apparatus for detecting fiducial marking on a material, the fiducial marking characterized by the ability to absorb light in a first wavelength range and to fluoresce in a second wavelength range that is outside the first wavelength range, comprising an excitation source configured to direct light at the material in the first wavelength range, and a detection device configured to optically examine a material, to determine whether fluorescence from a fiducial marking which is in the second wavelength range is detected by the detection device.

23. (canceled) Apparatus as defined in claim 22, wherein said detection device is configured to received fluorescence from a predetermined direction, and wherein the direction of the excitation light is co-linear with the predetermined direction from which the detection device receives fluorescence.

24. (canceled) Apparatus as defined in claim 23, wherein said excitation source and said detection device are configured such that the direction of the excitation light is co-axial with the predetermined direction from which the detection device receives fluorescence.

25. (canceled) Apparatus as defined in claim 22, wherein the detection device is configured to detect fluorescence in a predetermined wavelength range which is determined by the excitation source and an extrinsic component of the material and which substantially excludes fluorescence from intrinsic components of the material.

26. (canceled) Apparatus as defined in claim 25, wherein said predetermined wavelength range is determined by an optical filtering device forming part of the detection device.

27. (canceled) Apparatus as set forth in claim 22, wherein the excitation source comprises a Light Emitting Diode (LED).

28. (canceled) Apparatus as set forth in claim 22, wherein the excitation source comprises a semiconductor laser.

29. (new) A method for detecting a fiducial marking of a carpet material, comprising the steps of providing the carpet material with a fiducial marking comprising at least one pic line provided in the carpet material material, the pic line configured to be related to the pattern of the carpet material, the fiducial marking characterized by the ability to absorb light in a first wavelength range and to fluoresce in a second wavelength that is at least partially outside the first wavelength range, examining the carpet with (a) an excitation source configured to direct light at the material in the first wavelength range, and (b) a detection device configure to optically examine the carpet, to determine

whether fluorescence from the fiducial marking which is in the second wavelength range is detected by the detection device, and to detect the configuration of the pic line and provide output relative thereto.

30. (new) A method as set forth in claim 29, wherein a plurality of pic lines are provided in the carpet material, and the step of examining the carpet comprising examining the plurality of pic lines and detecting the configurations of the plurality of pic lines.

31. (new) A method as set forth in claim 29, wherein the step of examining includes examining the pic line to detect a bow configuration in the pic line.

32. (new) A method as set forth in claim 29, wherein the step of examining includes examining the pic line to detect a skew configuration in the pic line.

33. (new) A method as set forth in claim 29, wherein the step of examining includes examining the pic line to detect either a bow or skew configuration in the pic line.